REMARKS

Claims 1-19 are currently pending in the present application and no new matter has been added.

Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' admitted prior art in view of CrystalLink Wireless KVM Transmitter and Receiver. The July 8, 2008 final office action faulted Applicants for failing to provide arguments as to why the claims as presented in the April 1, 2008 response were patentable, as specified in Rule 1.111(c). Thus, the final office action incorporated by reference the specific rejections contained in the earlier, October 2, 2007 office action. The following remarks traverse the rejections and provide reasons why the pending claims are patentable over the cited references.

With respect to independent claims 1, 6, and 12, the office action alleges that it would have been obvious to combine the CrystalLink Wireless KVM Transmitter and Receiver brochure ("the CrystalLink brochure") with the admitted prior art to facilitate wireless communications between the digital switch and the server cards, and that such a combination would render the claims obvious. Applicants respectfully disagree with these assertions.

As explained in the specification, one cannot simply substitute a wireless connection for a wired connection in the context of communication with and control of multiple servers as described in the present application. The specification explains that:

> But, standard wireless technology does not yet provide the requisite performance criteria needed to simply substitute wireless transmitter/receiver combos wherever a wire now exists in the client and server architecture. One cannot simply decide to remove the sixty cables from the servers in the embodiment of Figure 6 and substitute wireless transmitters and receivers for them because the performance requirements in the KVM environment and the performance provisions by standard wireless systems do not match. Even in the wire-line environment, communicating video signals from the servers to the clients has posed particularly troubling issues. Uncompressed video information from a server can, depending on resolution and refresh rates, amount to 60 million or more pixel values per second being communicated from the server to the client. Bandwidth requirements for that kind of data volume can be prohibitively high, even for most wire-line systems much less wireless ones. Some traditional video compression techniques, such as the JPEG and MPEG variations, require substantial processor capabilities or remain too slow for the KVM system arts, where even relatively small delay times between keyboard/mouse input from the client and video response from the server will frustrate client users.

(Spec., p. 5, line 19-p. 6, line 10). Thus, the specification explains that the bandwidth of conventional wireless communication protocols is too limited to allow the virtually real-time communication and control of the present application. The specification goes on to explain that even using 802.11(a) alone (as is disclosed in the CrystalLink brochure), the bandwidth to achieve the present communication and control is insufficient.

> Using 802.11(a) or (g), a bandwidth of 54 Mbps is obtained. With an example extremely low video resolution of about 1 million pixels per frame and a refresh rate of 60 frames per second, each raw RGB color component received by the video encoder 104 would amount to about 60 million pixels per second. With eight-bit color, the bandwidth requirement

> is about 500 Mbps for one extremely low resolution raw color component. Needless to say, the 802.11 standards do not provide for nearly that bandwidth. Lossy compression algorithms such as JPEG, MPEG, large block encoding, etc. can reduce the bandwidth requirement to workable levels, but the loss in video quality is noticeable.

(Spec., p. 17, lines 16-23).

Independent claims 1, 6 and 12 recite a system that overcomes the very problems that result from the simple substitution of the wireless communication arrangement disclosed in the CrystalLink brochure for wired communications between a plurality of servers and the digital switch. For example, claim 1 recites a "server rack" defining locations to receive multiple "electronic cards," each such "card" having "one or more servers" located on the cards. Each server has "a corresponding wireless radio" and "a code device to digitize and encode the video response into essentially lossless digital computer video information." Claim 1 also recites a "digital switch in the server rack," including "a wireless server port to simultaneously communicate with the wireless radios of two or more of the servers and a second port to receive keyboard input information." The combination of the admitted prior art and the CrystalLink brochure relied upon in the office action do not disclose or render obvious this combination of claim features.

The combination of the APA with the CrystalLink brochure does not teach or suggest a server in a rack having "a corresponding wireless radio" and "a code device to digitize and encode the video response into essentially lossless digital computer video information." Even assuming that the transmitter disclosed in the CrystalLink brochure

can be equated with the "corresponding wireless radio" for each server, the CrystalLink brochure still fails to disclose a server in a rack having "a code device to digitize and encode the video response into essentially lossless digital computer video information." This is a significant aspect of communicating high bandwidth video information over a relatively low bandwidth wireless communication link.

Moreover, the combination of the APA with the CrystalLink brochure does not teach or suggest a "digital switch in the server rack," including "a wireless server port to simultaneously communicate with the wireless radios of two or more of the servers and a second port to receive keyboard input information." First, the CrystalLink brochure does not disclose a "digital switch" at all. The receiver disclosed in the CrystalLink brochure is attached directly to a workstation, and there is no disclosure of how such a device would be connected to a "digital switch," or modified to work with a "digital switch," or incorporated into a "digital switch" to allow communication between the digital switch and the plurality of servers. The CrystalLink brochure only discloses a transmitter directly attached to a computer and a receiver directly attached to a workstation. No intervening device, much less a digital switch, is disclosed or apparently needed for the purposes of the arrangement described in the CrystalLink brochure.

In addition, the "digital switch" of claim 1 must "simultaneously communicate with the wireless radios of two or more of the servers." The cited combination of the APA and the CrystalLink brochure do not teach or suggest this type of digital switch.

Independent claim 6 recites "a plurality of server cards" each having "a server card radio device" and a "unique identifier" to distinguish its server card radio device from the radio devices of other server cards in the server rack. Each "server card" also has "a video processing code device," and each server card "produc[es] in the video processing code device an encoded digital video signal in response to at least the application program." Claim 6 also recites "a digital switch" comprising "a digital switch radio device in simultaneous radio communication with two or more of said server card radio devices." The "digital switch compris[es] a radio manager to channel communications between the digital switch and the selected ones of the server card radio devices using the unique identifiers."

The cited combination of APA and the CrystalLink brochure does not teach or suggest a plurality of "server cards," each having a "server card radio device" and a unique identifier" to distinguish the radio devices from each other. The APA/CrystalLink brochure combination also fails to teach or suggest a group of server cards each having "a video processing code device," where each server card "produc[es] in the video processing code device an encoded digital video signal in response to at least the application program." There is no disclosure whatsoever of a "video processing code device" or a server card that produces an "encoded digital video signal ... ."

Moreover, the combination of the APA with the CrystalLink brochure does not teach or suggest a "digital switch" including "a digital switch radio device in

simultaneous radio communication with two or more of said server card radio devices." First, the CrystalLink brochure does not disclose a "digital switch" at all. The receiver disclosed in the CrystalLink brochure is attached directly to a workstation, and there is no disclosure of how such a device would be connected to a "digital switch," or modified to work with a "digital switch," or incorporated into a "digital switch" to allow communication between the digital switch and the plurality of servers. The CrystalLink brochure only discloses a transmitter directly attached to a computer and a receiver directly attached to a workstation. No intervening device, much less a digital switch, is disclosed or apparently needed for the purposes of the arrangement described in the CrystalLink brochure.

In addition, the "digital switch" of claim 6 must be in "in simultaneous radio communication with two or more of said server card radio devices." The cited combination of the APA and the CrystalLink brochure do not teach or suggest a digital switch that simultaneously communicates with two or more server card radio devices. this type of digital switch.

Third, the APA/ CrystalLink brochure combination does not teach or suggest a "digital switch comprising a radio manager to channel communications between the digital switch and the selected ones of the server card radio devices using the unique identifiers." Even assuming a "digital switch" is disclosed (which it is not), there is no

disclosure of a "radio manager to channel communications between the digital switch and the selected ones of the server card radio devices using the unique identifiers."

Independent claim 12 recites a system including "a plurality of servers in a common rack," each server having "a code device," and "a server radio having a unique channeling identifier relative to the other servers in the common rack." Claim 12 also recites "a digital switch comprising a digital switch radio device in simultaneous radio communication with two or more of said server radios." The "digital switch radio device" being configured to "communicate a given user input signal to a selected one of the server radios and to receive from the selected one of the server radios an encoded digital video signal." The "digital switch" includes "a radio manager to channel communications between the digital switch and the selected one of the server radios using the unique identifiers." Claim 12 also recites a "workstation wireless access point communicating with a user workstation providing the user input signals, said wireless access point including an access point radio communicating with a network in communication with the digital switch."

The cited APA/ CrystalLink brochure combination does not teach or suggest the combination recited in claim 12. For example, the cited APA/ CrystalLink brochure combination does not teach or suggest "a plurality of servers in a common rack," where each server has "a server radio having a unique channeling identifier relative to the other servers in the common rack." The cited APA/ CrystalLink brochure combination also

does not teach or suggest "a digital switch comprising a digital switch radio device in simultaneous radio communication with two or more of said server radios." Nor does the cited APA/ CrystalLink brochure combination teach or suggest a "digital switch radio device" being configured to "communicate a given user input signal to a selected one of the server radios and to receive from the selected one of the server radios an encoded digital video signal." Finally, the system disclosed in the cited the cited APA/ CrystalLink brochure combination does not teach or suggest a "workstation wireless access point communicating with a user workstation providing the user input signals, said wireless access point including an access point radio communicating with a network in communication with the digital switch."

With respect to all of the rejections, the office action has not explained how the elements of the system disclosed in the CrystalLink brochure would fit within the cited APA. If the CrystalLink receiver in combination with the workstation would be substituted for the workstation of the APA, then there is absolutely no "network" or "digital switch" as recited in claim 12 (in addition to the specific limitations on those elements). Thus, it is unclear how the office action is specifically incorporating the teachings of the CrystalLink brochure into the cited APA. Accordingly, the office action has failed to identify substantial evidence supporting the rejections, and failed to even make a prima facie case of obviousness.

Finally, Applicants respectfully submit that the rejection of dependent claims 2-5, 7-11, and 13-19 are deficient for failing to identify substantial evidence that such claims are not patentable over the cited references. The rejection of these claims merely states that "[t]he 'wherein clauses] in the claims merely consist of non-functional descriptive materials." This is an insufficient basis for rejecting the claims. Each of these dependent claims includes further limitations on the specific elements of the claims and/or includes additional functional language specifying how the elements of the claims operate or the functions they perform. A proper rejection of these dependent claims requires substantial evidence in the record that the subject matter of the dependent claims (including the claims from which the dependent claim depends) is found in, or obvious in light of, the cited references. The office action fails to include any such evidence. Moreover, the conclusion that such evidence need not be found in the prior art is incorrect. (*See* MPEP 2111.04). Thus, Applicants respectfully submit that each of the dependent claims is separately patentable above and beyond the reasons specified above for each of their corresponding independent claims.

In light of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Thus, Applicants respectfully request early and favorable reconsideration of the application.

CHARGE STATEMENT: Deposit Account No. 501860, order no. (client-matter no.) **2540-0644.**
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/ Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached.

This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.

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